

DIEBOLD/PREMIER GEMS VERSION 1.18.19

**Premier Election Solutions'
Global Election Management System (GEMS)
Software Version 1.18.19**

Staff Report

**Prepared by:
Secretary of State Office of
Voting Systems Technology Assessment**

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I. Investigation & Findings

The attached *California Secretary of State Debra Bowen's Report to the Election Assistance Commission Concerning Errors and Deficiencies in Diebold/Premier GEMS Version 1.18.19* ("Report") identifies software flaws in the GEMS version 1.18.19 software that led Humboldt County to initially inaccurately certify results (which were subsequently corrected) for the November 4, 2008, General Election. The flaws also led to inaccurate or missing audit trail information that was pertinent to the investigation into the cause of the inaccurate results. The Secretary of State's investigation identified the following errors and deficiencies in GEMS version 1.18.19, all of which are discussed in the Report:

1. The "Deck 0" software error caused the deletion of 197 tallied ballots.
2. GEMS version 1.18.19 audit logs fail to record important events.
3. "Clear" buttons on the GEMS Poster Log and Central Count Log permit deletion of important audit records.
4. Date and time stamp on audit trail entries are inaccurate.

II. Adherence to State & Federal Requirements

A. Federal Standards

As described in the Report, the investigation identified multiple failures to adhere to the 1990 Performance and Test Standards for Punchcard, Marksense, and Direct Recording Electronic Voting Systems, the federal voting system standards that the GEMS version 1.18.19 software was required to meet. These standards would have required failure of the voting system containing the GEMS version 1.18.19 software had the flaws found in this investigation been identified and reported by the Independent Testing Authority (ITA) that performed the federal testing.

The ITA testing of the system discovered no such flaws. The National Association of State Election Directors (NASD) approved GEMS version 1.18.19 in three voting system configurations between February 2004 and September 2004.

B. State Testing and Review

The California Secretary of State's office tested the three voting system configurations that include GEMS version 1.18.19 in June 2004, July 2004 and September 2004, respectively. The testing did not detect the "Deck 0" or audit trail problems. Between August 2004 and October 2004, the systems were approved for sale and use in California.

This Secretary of State investigation falls under the purview of California Elections Code section 19222, which states:

The Secretary of State shall review voting systems periodically to determine if they are defective, obsolete, or otherwise unacceptable. The Secretary of State has the right to withdraw his or her approval previously granted under this chapter of any voting system or part of a voting system should it be defective or prove unacceptable after such review. Six months' notice shall be given before withdrawing approval unless the Secretary of State for good cause shown makes a determination that a shorter notice period is necessary. Any withdrawal by the Secretary of State of his or her previous approval of a voting system or part of a voting system shall not be effective as to any election conducted within six months of that withdrawal.

III. Conclusion

Elections Code section 19222 authorizes the Secretary of State to withdraw approval for use of any voting system if the Secretary determines that the system is defective or unacceptable. In the event the Secretary decides that withdrawal of approval is appropriate, the minimum period provided by statute before that decision could take effect is six months.